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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/776,983	02/11/2004	Thammo Kellermann	71287	4552

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EXAMINER
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VASUDEVA, AJAY

ART UNIT	PAPER NUMBER
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3617

DATE MAILED: 06/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/776,983

Applicant(s)

KELLERMANN ET AL.

Examiner

Ajay Vasudeva

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-9, 16 and 17 is/are rejected.
- 7) ☒ Claim(s) 5, 6, 10-15 and 18-20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4/20/2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Specification*

1. The disclosure is objected to because of the following informalities:
  - The "List of Reference Numeral" listed on page 17 should be moved to page 15, after the paragraph 25 but before the Abstract. Appropriate correction is recommended.

### *Claim Objections*

2. Claims 1 and 7 are objected to because of the following informalities:
  - In claim 1 (line 2), after "liquid oxygen", "(LOX)" should be either deleted, or changed to -- , or LOX, --. A use of parentheses in the claim for enclosing an expression other than a reference numeral is considered improper. If the claim is amended by deleting "(LOX)", a corresponding change in claim 7 is required. Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
  - On line 1, use of the limitation "the pressure increasing means" makes the claim indefinite as such limitation lacks proper antecedent basis in the claim.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-4, 7, 9, 17 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Carter Jr. (US 3,473,337 A).

Carter Jr. shows (figure 1) a submarine [10] having a pressure hull [19b], an outer pressure container [12], and a liquid gas pressure container [11] storing liquid oxygen [20] (see col. 2, line 15). The term "submarine" has been broadly interpreted to mean any such vessel that is capable of operating submerged.

The outer pressure container is at least partially disposed in the pressure hull. Similarly, the liquid gas pressure container is at least partially disposed in the pressure hull, and is therefore considered to be "arranged within the pressure hull of the submarine", as required by the claim. The liquid gas pressure container is also surrounded by the outer pressure container. Means [44] are provided to lead fluid out of the pressure hull upon exceeding a predetermined pressure within the liquid gas pressure container.

Re claims 2 and 17, the outer pressure container encompasses fittings and conduits [32, 41] that lead fluid gas. At least an upper portion of conduit [41] -- disposed inside the liquid gas pressure container -- is considered to be an equivalent of evaporator.

Re claims 3 and 4, the safety means is a pressure relief valve [44].

Re claim 16, the pressure relief valve first detects, or senses, the excess pressure prior to allowing a discharge of the gas.

***Examiner's Observations***

7. Applicant may note that the limitations "pressure hull" and "pressure container" are being broadly interpreted to mean any such enclosure that is capable of withstanding pressure, or that is capable of being pressurized. The recitation of phrase "pressure hull or container" does not automatically require the hull or the container to store a pressurized fluid (liquid or gas), unless such is specifically recited in the body of the claim – e.g., a pressure container storing liquid gas, or a pressure container storing pressurized gas, etc.

Similarly, the limitations "liquid gas pressure container" is any such container that is capable of storing a liquid gas, but not necessarily holding such liquid gas within the container. Therefore, a mere showing of any liquid or gas – and not necessarily a liquid gas – would meet the requirement of claim 16.

***Allowable Subject Matter***

8. Claims 5, 6, 10-15, and 18-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. Claim 8 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

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- The prior art references cited in the attached PTO Form 892 each show a submarine or a submersible vessel with pressure container(s).

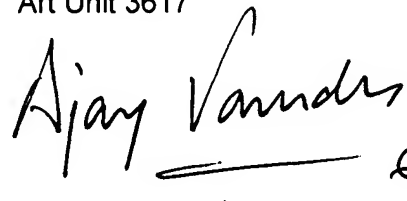
11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ajay Vasudeva whose telephone number is (571) 272-6689. The examiner can normally be reached on Monday-Friday 12:00 -- 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, S. Joe Morano can be reached on (571) 272-6684. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AV

Ajay Vasudeva  
Examiner  
Art Unit 3617

 6/23/05

**AJAY VASUDEVA  
PATENT EXAMINER**